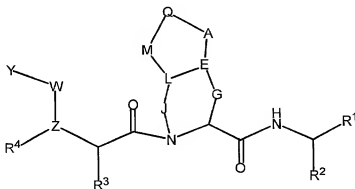


Claims

What is claimed is:

1. A compound, including enantiomers, stereoisomers, rotamers, tautomers, racemates and prodrug of said compound, and pharmaceutically acceptable salts or solvates of said compound, or of said prodrug, said compound having the general structure shown in Formula I:



Formula I

wherein:

Y is selected from the group consisting of the following moieties: alkyl, alkyl-aryl, heteroalkyl, heteroaryl, aryl-heteroaryl, alkyl-heteroaryl, cycloalkyl, alkyloxy, alkyl-aryloxy, aryloxy, heteroaryloxy, heterocycloalkyloxy, cycloalkyloxy, alkylamino, arylamino, alkyl-aryl amino, arylamino, heteroaryl amino, cycloalkyl amino and heterocycloalkyl amino, with the proviso that Y may be optionally substituted with X¹¹ or X¹²;

X¹¹ is alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkyl-alkyl, heterocyclyl, heterocyclylalkyl, aryl, alkylaryl, arylalkyl, heteroaryl, alkylheteroaryl, or heteroarylalkyl, with the proviso that X¹¹ may be additionally optionally substituted with X¹²;

X¹² is hydroxy, alkoxy, aryloxy, thio, alkylthio, arylthio, amino, alkylamino, arylamino, alkylsulfonyl, arylsulfonyl, alkylsulfonamido, arylsulfonamido, carboxy, carbalkoxy, carboxamido, alkoxycarbonylamino, alkoxycarbonyloxy, alkylureido,

arylureido, halogen, cyano, or nitro, with the proviso that said alkyl, alkoxy, and aryl may be additionally optionally substituted with moieties independently selected from X^{12} ;

R^1 is COR^5 or $B(OR)_2$, wherein R^5 is H, OH, OR^8 , NR^9R^{10} , CF_3 , C_2F_5 , C_3F_7 ,

5 CF_2R^6 , R^6 , or COR^7 wherein R^7 is H, OH, OR^8 , CHR^9R^{10} , or NR^9R^{10} , wherein R^6 , R^8 , R^9 and R^{10} are independently selected from the group consisting of H, alkyl, aryl, heteroalkyl, heteroaryl, cycloalkyl, cycloalkyl, arylalkyl, heteroarylalkyl, $[CH(R^1)]_pCOOR^{11}$, $[CH(R^1)]_pCONR^{12}R^{13}$, $[CH(R^1)]_pSO_2R^{11}$, $[CH(R^1)]_pCOR^{11}$, $[CH(R^1)]_pCH(OH)R^{11}$,
10 $CH(R^1)CONHCH(R^2)COOR^{11}$, $CH(R^1)CONHCH(R^2)CONR^{12}R^{13}$, $CH(R^1)CONHCH(R^2)R^1$, $CH(R^1)CONHCH(R^2)CONHCH(R^3)COOR^{11}$, $CH(R^1)CONHCH(R^2)CONHCH(R^3)CONR^{12}R^{13}$, $CH(R^1)CONHCH(R^2)CONHCH(R^3)CONHCH(R^4)COOR^{11}$, $CH(R^1)CONHCH(R^2)CONHCH(R^3)CONHCH(R^4)CONR^{12}R^{13}$,
15 $CH(R^1)CONHCH(R^2)CONHCH(R^3)CONHCH(R^4)CONHCH(R^5)COOR^{11}$ and $CH(R^1)CONHCH(R^2)CONHCH(R^3)CONHCH(R^4)CONHCH(R^5)CONR^{12}R^{13}$, wherein R^1 , R^2 , R^3 , R^4 , R^5 , R^{11} , R^{12} , R^{13} , and R^1 are independently selected from the group consisting of H, alkyl, aryl, heteroalkyl, heteroaryl, cycloalkyl, alkyl-aryl, alkyl-heteroaryl, aryl-alkyl and
20 heteroarylalkyl;

Z is selected from O, N, CH or CR;

W maybe present or absent, and if W is present, W is selected from $C=O$, $C=S$, $C(=N-CN)$, or SO_2 ;

Q maybe present or absent, and when Q is present, Q is CH , N, P, $(CH_2)_p$,

25 $(CHR)_p$, $(CRR')_p$, O, NR, S, or SO_2 ; and when Q is absent, M may be present or absent; when Q and M are absent, A is directly linked to L;

A is O, CH_2 , $(CHR)_p$, $(CHR-CHR')_p$, $(CRR')_p$, NR, S, SO_2 or a bond;

E is CH, N, CR, or a double bond towards A, L or G;

G may be present or absent, and when G is present, G is $(CH_2)_p$, $(CHR)_p$, or $(CRR')_p$; and when G is absent, J is present and E is directly connected to the carbon atom in Formula I as G is linked to;

J may be present or absent, and when J is present, J is $(CH_2)_p$, $(CHR)_p$, or $(CRR')_p$, SO_2 , NH , NR or O ; and when J is absent, G is present and E is directly linked to N shown in Formula I as linked to J;

L may be present or absent, and when L is present, L is CH , CR , O , S or NR ; and when L is absent, then M may be present or absent; and if M is present with L being absent, then M is directly and independently linked to E, and J is directly and independently linked to E;

M may be present or absent, and when M is present, M is O , NR , S , SO_2 , $(CH_2)_p$, $(CHR)_p$, $(CHR-CHR')_p$, or $(CRR')_p$;

p is a number from 0 to 6; and

R, R', R², R³ and R⁴ are independently selected from the group consisting of H; C₁-C₁₀ alkyl; C₂-C₁₀ alkenyl; C₃-C₈ cycloalkyl; C₃-C₈ heterocycloalkyl, alkoxy, aryloxy, alkylthio, arylthio, amino, amido, ester, carboxylic acid, carbamate, urea, ketone, aldehyde, cyano, nitro, halogen; (cycloalkyl)alkyl and (heterocycloalkyl)alkyl, wherein said cycloalkyl is made of three to eight carbon atoms, and zero to six oxygen, nitrogen, sulfur, or phosphorus atoms, and said alkyl is of one to six carbon atoms; aryl; heteroaryl; alkyl-aryl; and alkyl-heteroaryl;

wherein said alkyl, heteroalkyl, alkenyl, heteroalkenyl, aryl, heteroaryl, cycloalkyl and heterocycloalkyl moieties may be optionally and chemically-suitably substituted, with said term "substituted" referring to optional and chemically-suitable substitution with one or more moieties selected from the group consisting of alkyl, alkenyl, alkynyl, aryl, aralkyl, cycloalkyl, heterocyclic, halogen, hydroxy, thio, alkoxy, aryloxy, alkylthio, arylthio, amino, amido, ester, carboxylic acid, carbamate, urea, ketone, aldehyde, cyano, nitro, sulfonamido, sulfoxide, sulfone, sulfonyl urea, hydrazide, and hydroxamate;

further wherein said unit N-C-G-E-L-J-N represents a five-membered or six-membered cyclic ring structure with the proviso that when said unit N-C-G-E-L-J-N represents a five-membered cyclic ring structure, or when the bicyclic ring structure in Formula I comprising N, C, G, E, L, J, N, A, Q, and M represents a five-membered cyclic ring structure, then said five-membered cyclic ring structure lacks a carbonyl group as part of the cyclic ring.

2. The compound of claim 1, wherein R^1 is COR^5 , and R^5 is H, OH, $COOR^8$, $CONR^9R^{10}$.

3. The compound of claim 2, wherein R^1 is $COCOR^9R^{10}$, and R^9 is H, R^{10} is H, R^{14} , $[CH(R^1)]_pCOOR^{11}$, $[CH(R^1)]_pCONR^{12}R^{13}$, $[CH(R^1)]_pSO_2R^{11}$, $[CH(R^1)]_pSO_2N R^{12}R^{13}$, $[CH(R^1)]_pCOR^{11}$, $CH(R^1)CONHCH(R^2)COOR^{11}$, $CH(R^1)CONHCH(R^2) CONR^{12}R^{13}$, or $CH(R^1)CONHCH(R^2)(R')$, wherein R^{14} is H, alkyl, aryl, heteroalkyl, heteroaryl, cycloalkyl, alkyl-aryl, alkyl-heteroaryl, aryl-alkyl, alkenyl, alkynyl or heteroaralkyl.

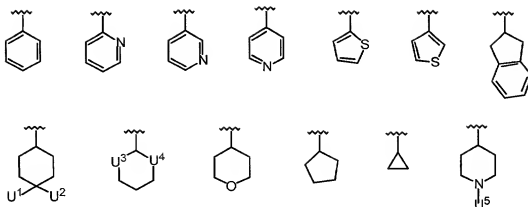
4. The compound of claim 3, wherein R^{10} is H, R^{14} , $CH(R^1)COOR^{11}$, $CH(R^1)CH(R^1)COOR^{11}$, $CH(R^1)CONR^{12}R^{13}$, $CH(R^1)CH(R^1)CONR^{12}R^{13}$, $CH(R^1)CH(R^1)SO_2R^{11}$, $CH(R^1)CH(R^1)SO_2N R^{12}R^{13}$, $CH(R^1)CH(R^1)COR^{11}$, $CH(R^1)CONHCH(R^2)COOR^{11}$, $CH(R^1)CONHCH(R^2) CONR^{12}R^{13}$, or $CH(R^1)CONHCH(R^2)(R')$, wherein R^1 is H or alkyl, and R^2 is phenyl, substituted phenyl, hetero atom-substituted phenyl, thiophenyl, cycloalkyl, piperidyl or pyridyl.

5. The compound of claim 4, wherein R^1 is H.

6. The compound of claim 5, wherein R^{11} is H, methyl, ethyl, allyl, *tert*-butyl, benzyl, α -methylbenzyl, α,α -dimethylbenzyl, 1-methylcyclopropyl or 1-methylcyclopentyl;

R^1 is hydroxymethyl or $CH_2CONR^{12}R^{13}$;

$R^{2'}$ is independently selected from the group consisting of:

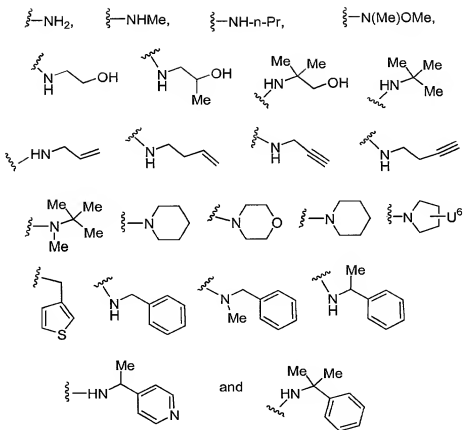


wherein:

U^1 and U^2 maybe same or different and are selected
from H, F, CH_2COOH , CH_2COOMe , CH_2CONH_2 ,
5 $CH_2CONHMe$, CH_2CONMe_2 , azido, amino, hydroxyl,
substituted amino, substituted hydroxyl;

U^3 and U^4 maybe same or different and are selected
from O and S;

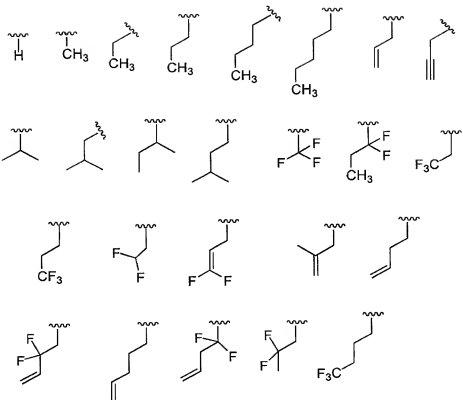
U^5 is selected from the moieties consisting of alkyl
10 sulfonyl, aryl sulfonyl, heteroalkyl sulfonyl, heteroaryl
sulfonyl, alkyl carbonyl, aryl carbonyl, heteroalkyl
carbonyl, heteroaryl carbonyl, alkoxy carbonyl,
aryloxy carbonyl, heteroaryloxy carbonyl,
alkylaminocarbonyl, arylaminocarbonyl,
15 heteroarylaminocarbonyl or a combination thereof;
and $NR^{12}R^{13}$ is selected from the group consisting of:

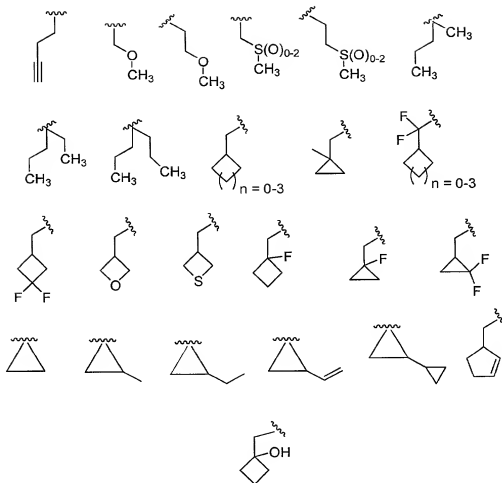


wherein U^6 is H, OH, or CH_2OH , and

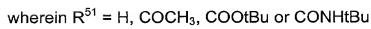
R^{14} is selected from the group consisting of: H, Me, Et, n -propyl, methoxy,
 5 cyclopropyl, n -butyl, 1-but-3-ynyl, benzyl, α -methylbenzyl, phenethyl, allyl, 1-but-3-enyl, OMe, cyclopropylmethyl.

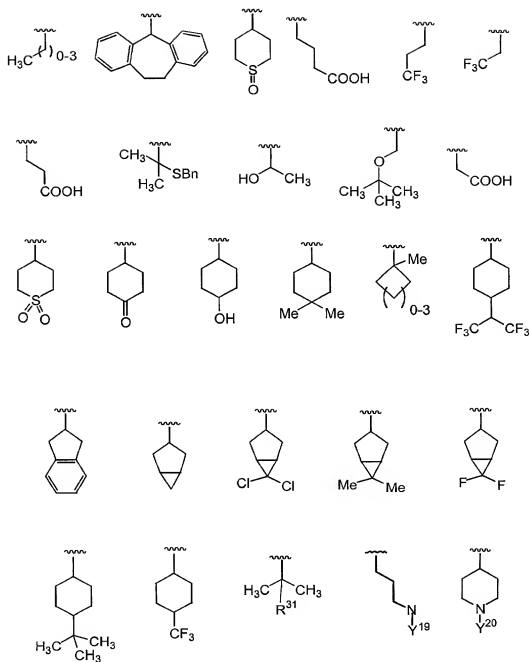
7. The compound of claim 2, wherein R^2 is selected from the group consisting of the following moieties:





8. The compound of claim 7, wherein R^3 is selected from the group consisting of:

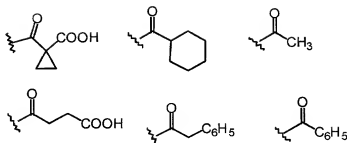




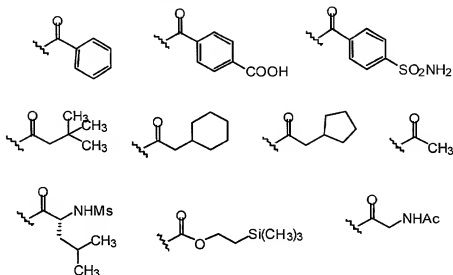
5

wherein $\text{R}^{31} = \text{OH}$ or O-alkyl;

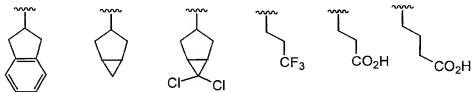
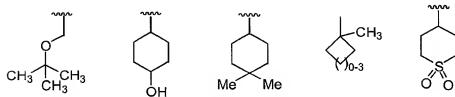
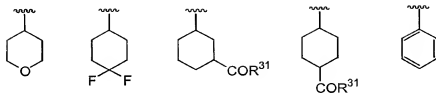
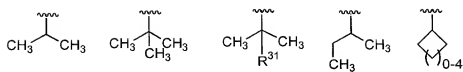
γ^{19} is selected from the following moieties:



and Y^{20} is selected from the following moieties:

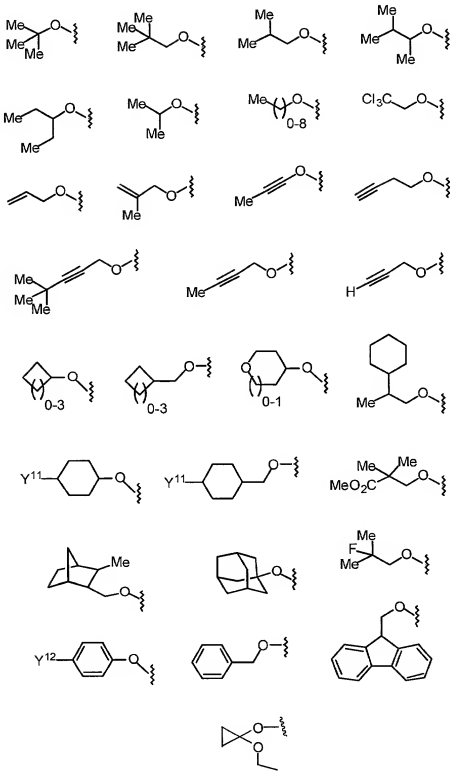


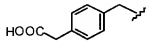
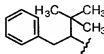
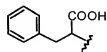
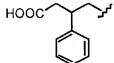
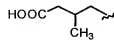
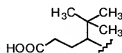
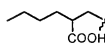
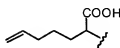
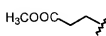
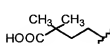
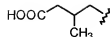
9. The compound of claim 8, wherein R^3 is selected from the group consisting of the following moieties:

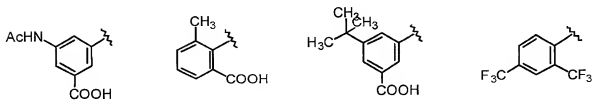


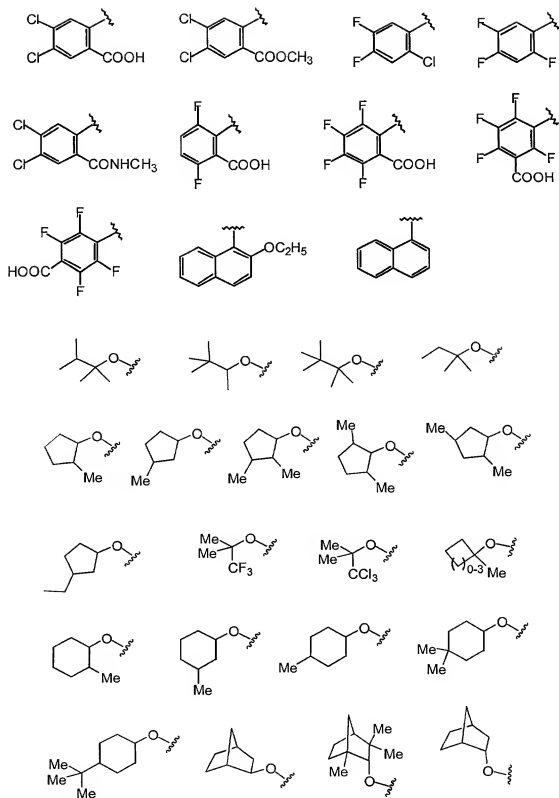
10. The compound of claim 9, wherein Z is N and R⁴ is H.
11. The compound of claim 10, wherein W is C=O.

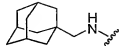
12. The compound of claim 11, wherein Y is selected from the following moieties:









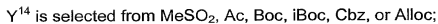


wherein:

- 5 Y^{11} is selected from H, COOH, COOEt, OMe, Ph, OPh, NHMe, NHAc, NHPh, CH(Me)₂, 1-triazolyl, 1-imidazolyl, and NHCH₂COOH;

Y^{12} is selected from H, COOH, COOMe, OMe, F, Cl, or Br;

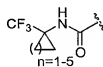
Y^{13} is selected from the following moieties:



5 heteroaryl;

Y¹⁸ is COOCH₃, NO₂, N(CH₃)₂, F, OCH₃, CH₂COOH, COOH, SO₂NH₂, or NHCOCH₃.

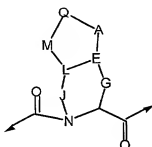
-
- The image displays eight chemical structures of ether derivatives, arranged in two rows of four. Each structure has a wavy line extending from the oxygen atom, indicating a polymer chain or a substituent group.
- Top Row:**
 - 1. A quaternary carbon atom bonded to three methyl groups and an oxygen atom.
 - 2. A quaternary carbon atom bonded to two methyl groups and a methoxy group.
 - 3. A quaternary carbon atom bonded to two methyl groups and an oxygen atom.
 - 4. A quaternary carbon atom bonded to two methyl groups and a trifluoromethyl group.
 - Bottom Row:**
 - 1. A five-membered ring (tetrahydrofuran) with a methyl group at the 2-position.
 - 2. A five-membered ring (tetrahydrofuran) with a methyl group at the 3-position.
 - 3. A six-membered ring (tetrahydropyran) with a methyl group at the 2-position.
 - 4. A six-membered ring (tetrahydropyran) with a methyl group at the 3-position.



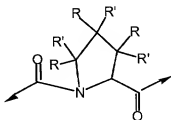

$$Y^{17} = CF_3, NO_2, CONH_2, OH, NH_2, \text{ or } COOH;$$
$$Y^{18} = F, COOH,$$

- [illegible]

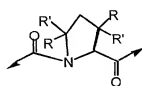
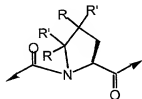
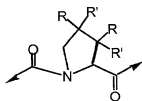
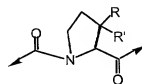
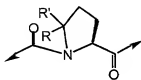
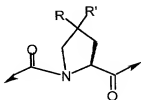
15. The compound of claim 14, wherein L and M are absent, and J is directly linked to E.
16. The compound of claim 14, wherein L, J and M are absent and E is directly linked to N.
- 5 17. The compound of claim 14, wherein G and M are absent.
18. The compound of claim 14, wherein the moiety:



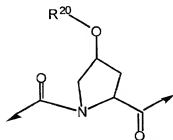
is

a

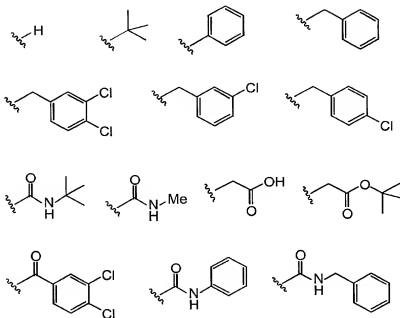
- 10 19. The compound of claim 18, wherein structure a is selected from the following structures:



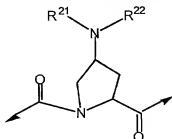
20. The compound of claim 18, wherein structure a is:



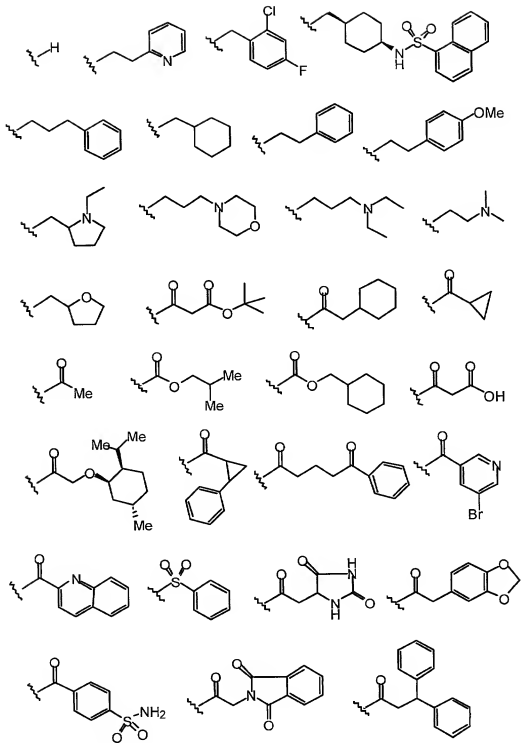
5 wherein R^{20} is selected from the following structures:



21. The compound of claim 18, wherein structure a is:

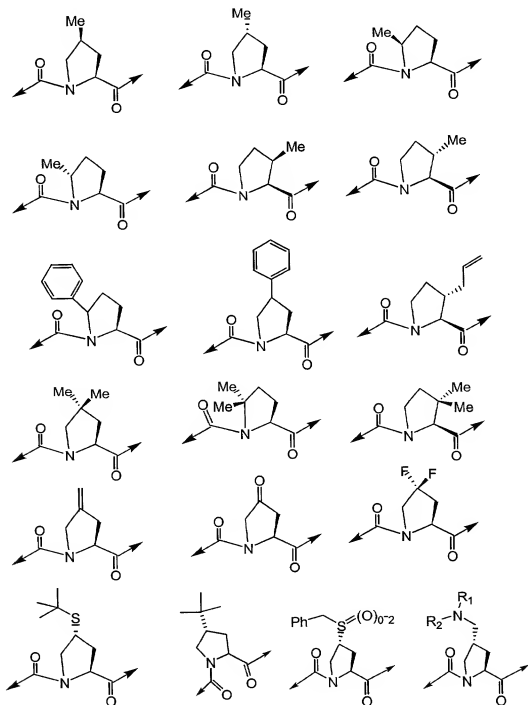


10 wherein R^{21} and R^{22} may be the same or different and are independently selected from the following structures:

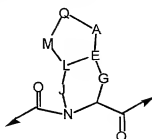


22. The compound of claim 18, wherein structure a is selected from the following

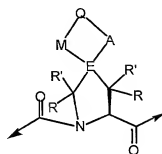
5 structures:



23. The compound of claim 14, wherein:



is

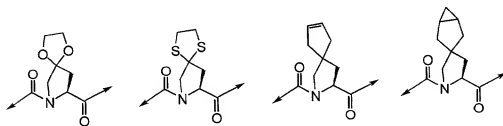
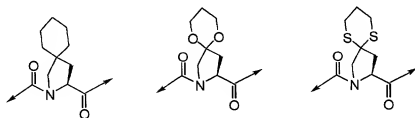
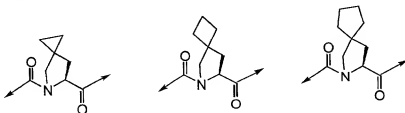


b

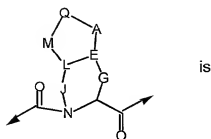
wherein Q may be present or absent, and if Q is absent, M is directly linked to A.

24. The compound of claim 23, wherein structure b is selected from the

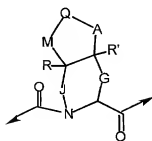
5 following structures:



25. The compound of claim 14, wherein:



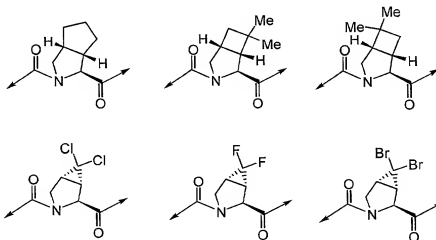
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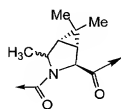
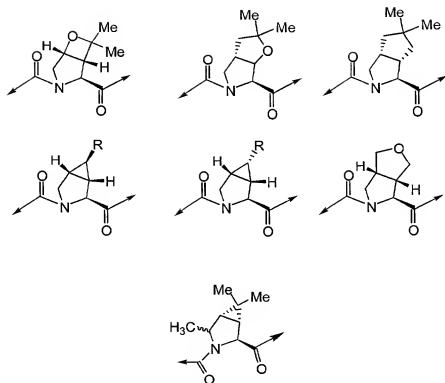


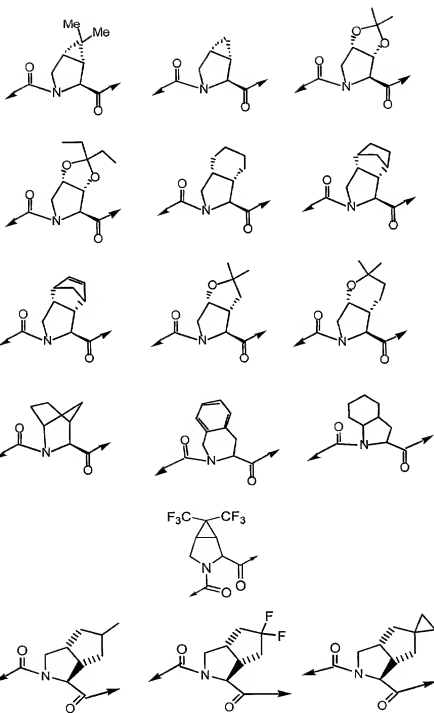
Ⓒ

wherein G and J are independently selected from the group consisting of $(CH_2)_p$, $(CHR)_p$, $(CHR-CHR')_p$, and $(CRR')_p$; A and M are independently selected from the group consisting of O, S, SO_2 , NR, $(CH_2)_p$, $(CHR)_p$, $(CHR-CHR')_p$, and $(CRR')_p$; and Q is CH_2 , CHR, CRR', NH, NR, O, S, SO_2 , NR, $(CH_2)_p$, $(CHR)_p$, and $(CRR')_p$.

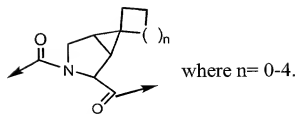
26. The compound of claim 25, wherein structure Ⓒ is selected from the following structures:



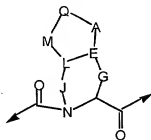




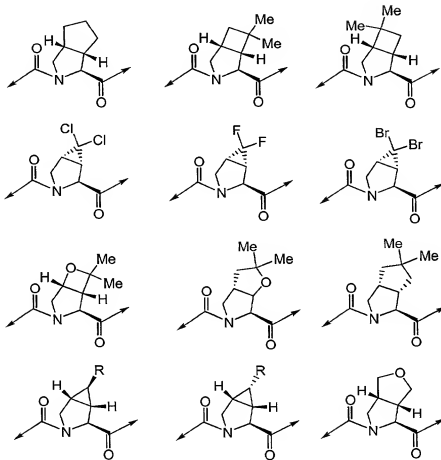
and

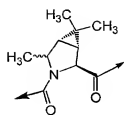


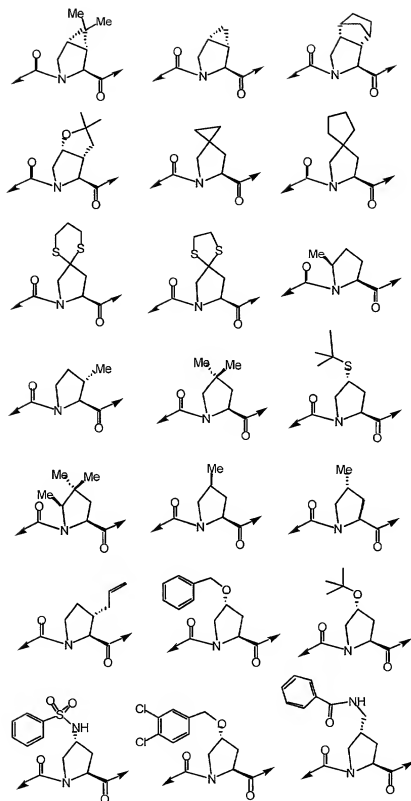
27. The compound of claim 14, wherein:



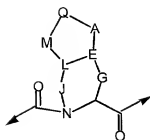
is selected from the following structures:



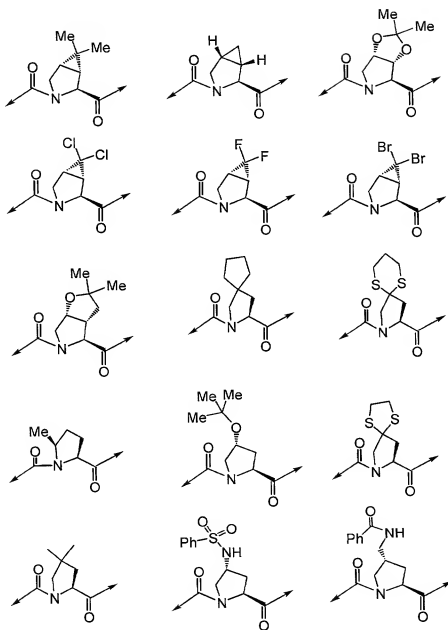




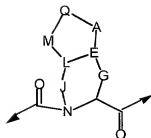
28. The compound of claim 27, wherein:



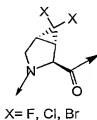
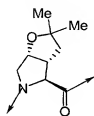
is selected from the following structures:



- 5 28. The compound of claim 27, wherein:



is selected from the following structures:



30. A pharmaceutical composition comprising as an active ingredient a compound of claim 1.

31. The pharmaceutical composition of claim 30 for use in treating disorders associated with HCV.

32. The pharmaceutical composition of claim 30 additionally comprising a pharmaceutically acceptable carrier.

33. The pharmaceutical composition of claim 32, additionally containing an antiviral agent.

34. The pharmaceutical composition of claim 33, still additionally containing an interferon.

35. The pharmaceutical composition of claim 34, wherein said antiviral agent is ribavirin and said interferon is α -interferon or pegylated interferon.

36. A method of treating disorders associated with the HCV, said method comprising administering to a patient in need of such treatment a pharmaceutical composition which comprises therapeutically effective amounts of a compound of claim 1.

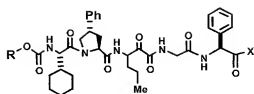
37. The method of claim 36, wherein said administration is oral or subcutaneous.

38. The use of a compound of claim 1 for the manufacture of a medicament to treat disorders associated with the HCV.

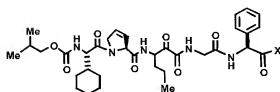
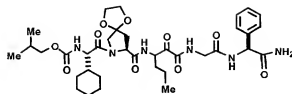
39. A method of preparing a pharmaceutical composition for treating the disorders associated with the HCV, said method comprising bringing into intimate
5 contact a compound of claim 1 and a pharmaceutically acceptable carrier.

40. A compound exhibiting HCV protease inhibitory activity, including enantiomers, stereoisomers, rotamers, tautomers, racemates and prodrug of said compound, and pharmaceutically acceptable salts or solvates of said compound, or of said prodrug, said compound being selected from the compounds of
10 structures listed below:

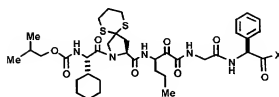
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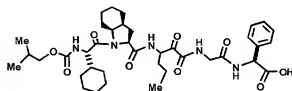
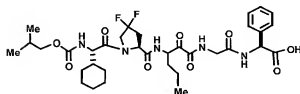
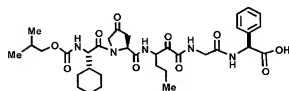
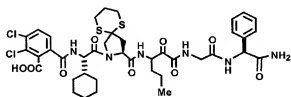
(R = t-butyl, X = NH₂)
 (R = isobutyl, X = NH₂)
 (R = t-butyl, X = OH)
 (R = Trichloroethyl, X = OH)

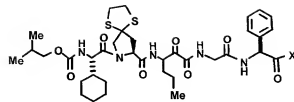
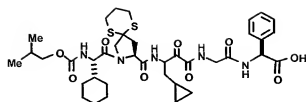


(X = O^tBu)
 (X = OH)

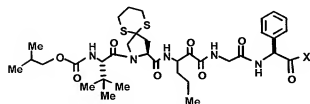
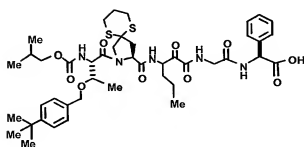
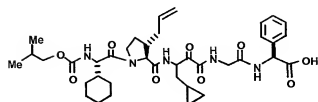
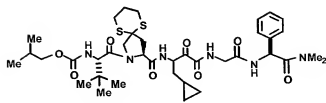


(X = OH)
 (X = O^tBu)
 (X = NH₂)
 (X = NHMe)
 (X = NMe₂)

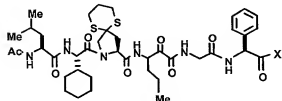




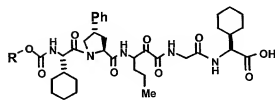
(X = NH₂)
(X = NMe₂)
(X = NHMe)
(X = OH)



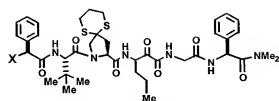
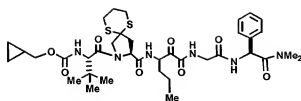
(X = O^tBu)
(X = OH)
(X = NH₂)
(X = NMe₂)



(X = O^tBu)
(X = OH)
(X = NH₂)
(X = NMe₂)
(X = NMeOMe)

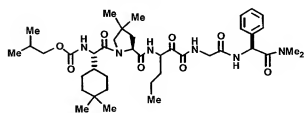
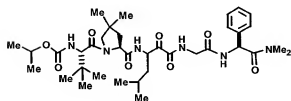
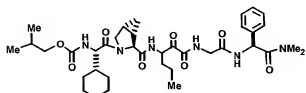
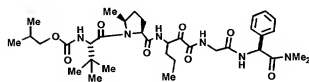
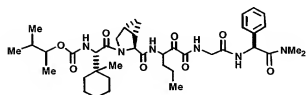
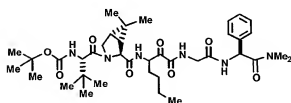
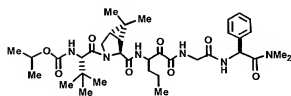
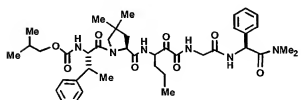


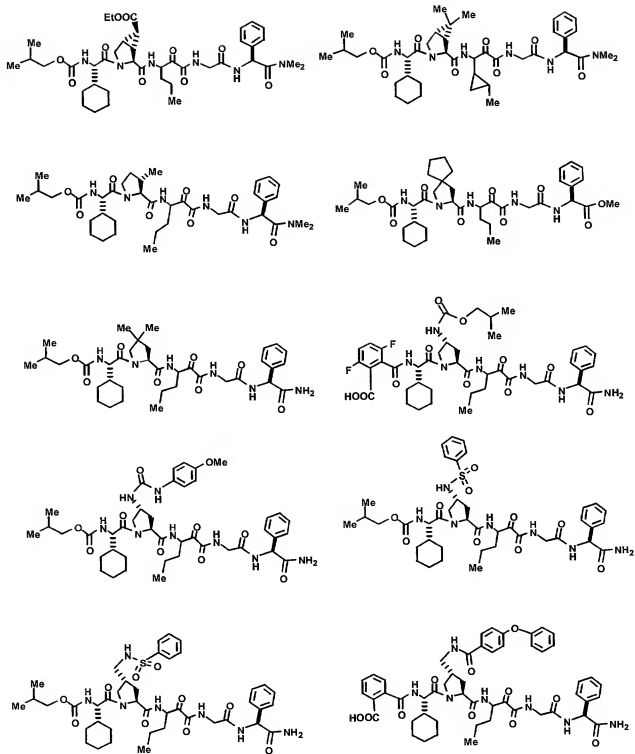
(R = t-butyl)
(R = isobutyl)

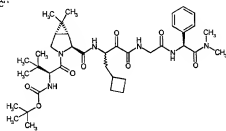


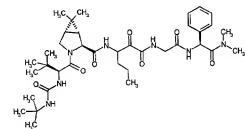
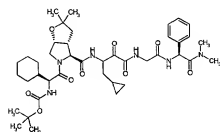
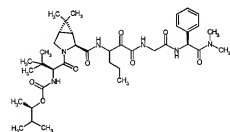
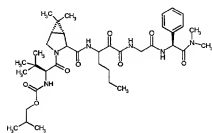
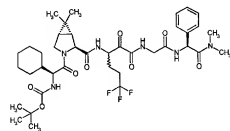
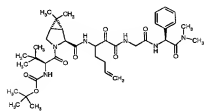
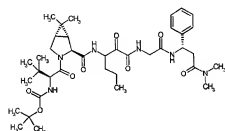
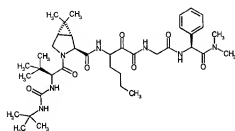
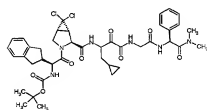
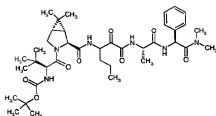
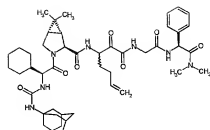
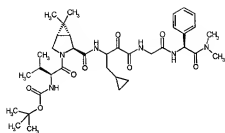
(X = Me, Y = CH₂Me)

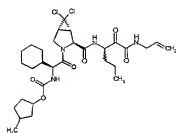
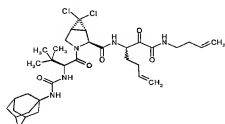
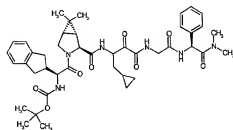
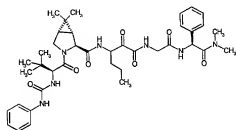
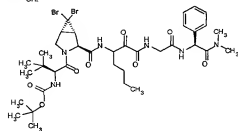
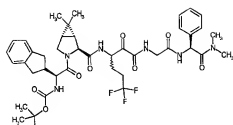
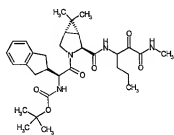
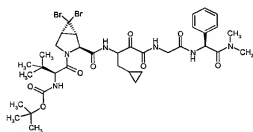
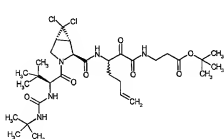
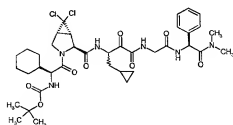
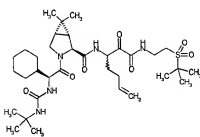
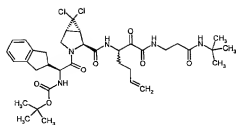
(X = OAc, Y = Me)

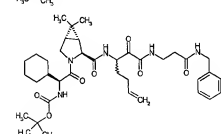
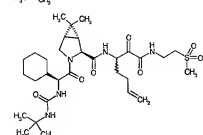
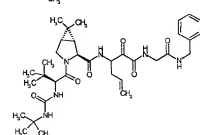
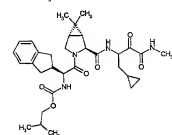
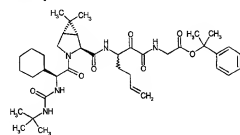
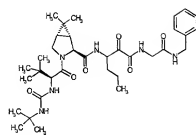
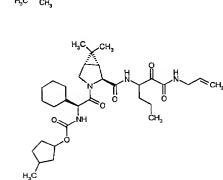
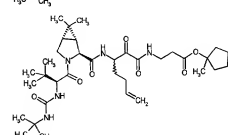
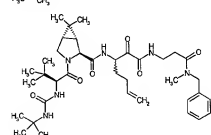
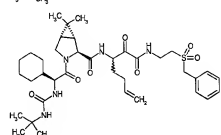
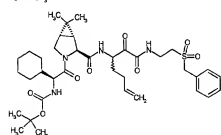
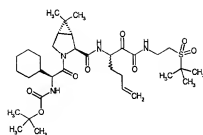


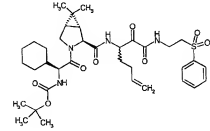
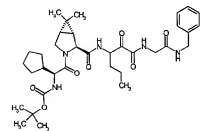


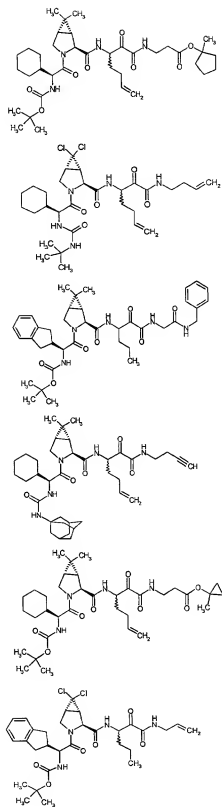


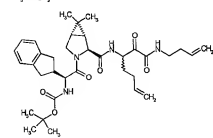
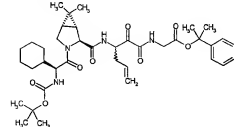
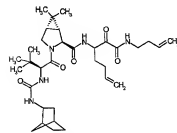
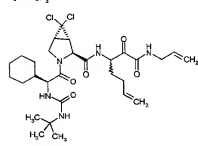
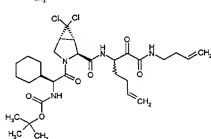
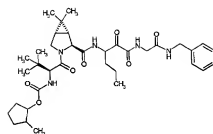
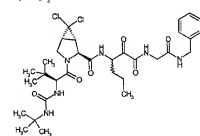
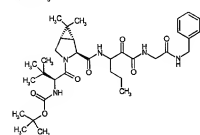
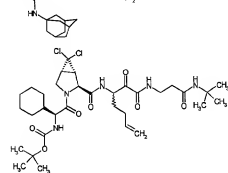
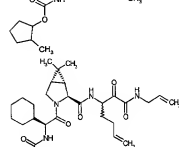
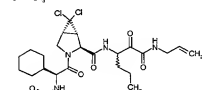
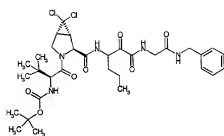


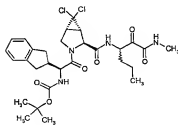
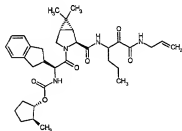
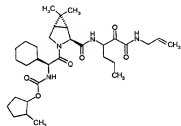
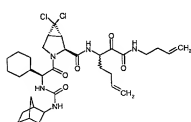
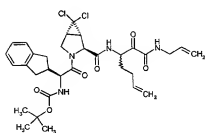
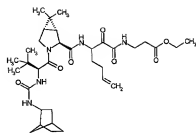


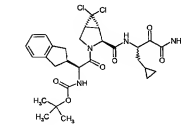
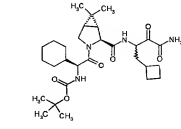
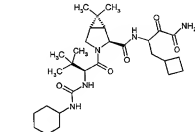
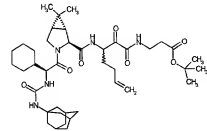
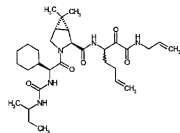
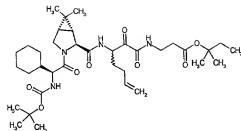
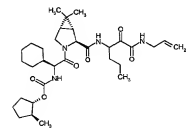
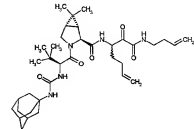
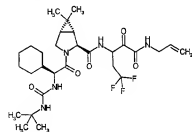
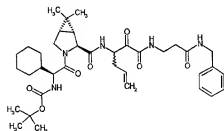
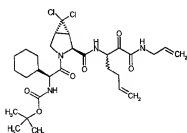
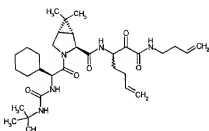




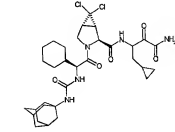
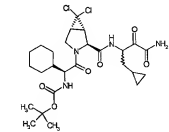


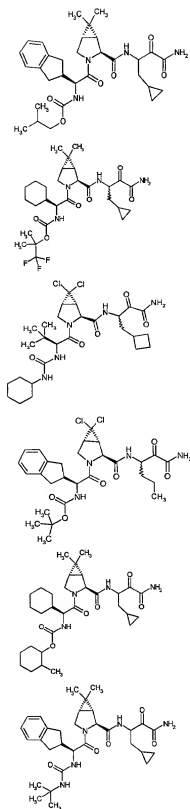


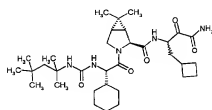
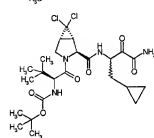
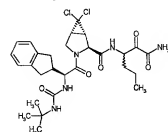
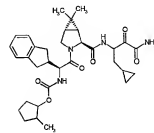
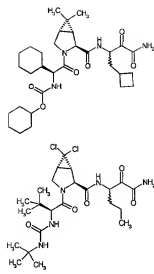
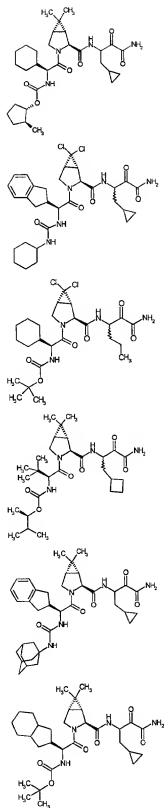




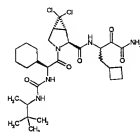
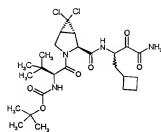
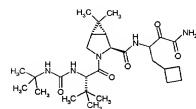
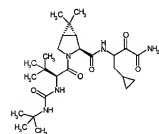
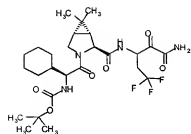
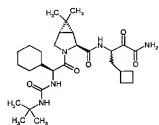
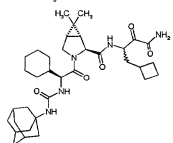
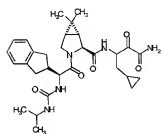
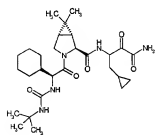
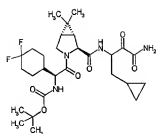
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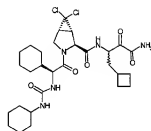
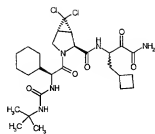




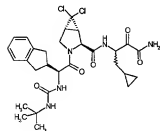
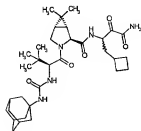
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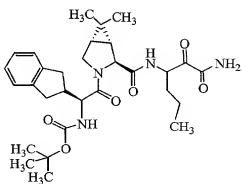
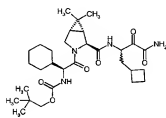
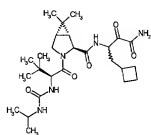
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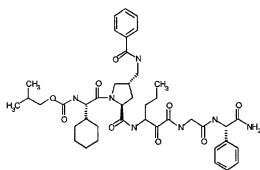
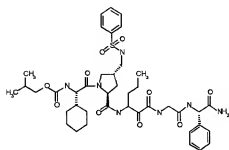
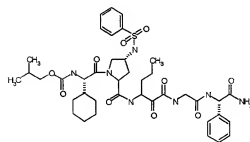
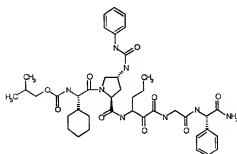
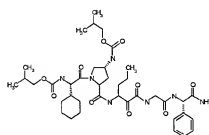
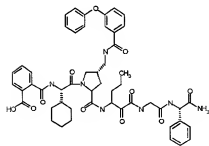
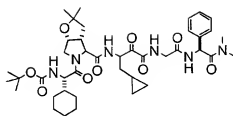
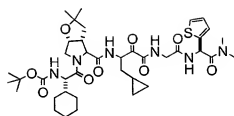
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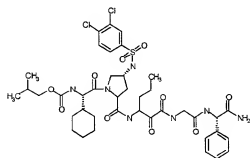
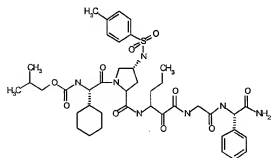
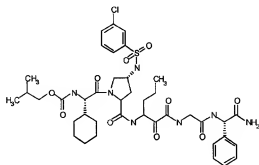
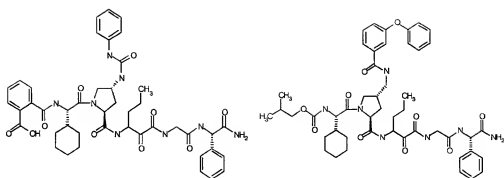


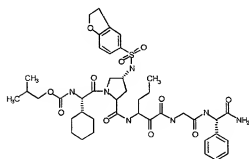
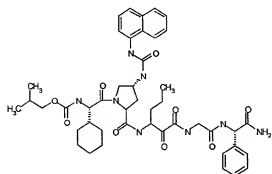
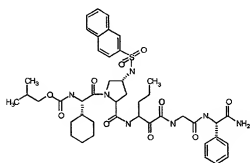
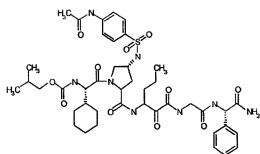
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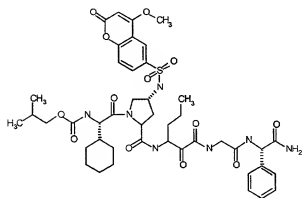
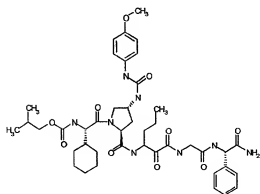
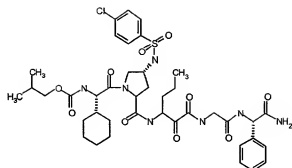


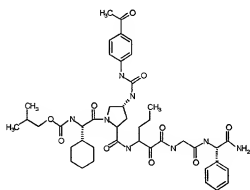
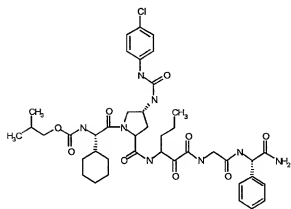
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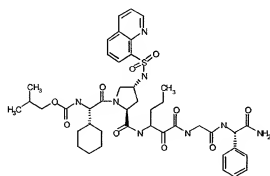
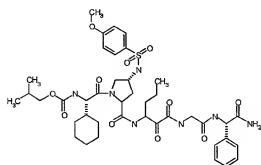
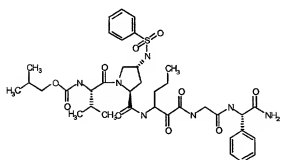


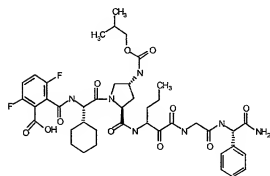
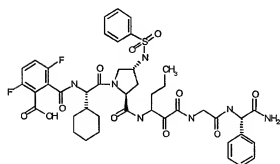
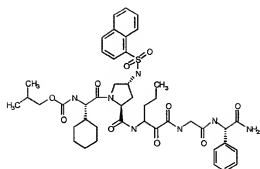


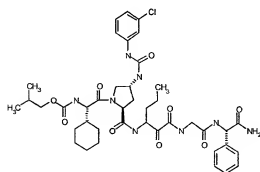
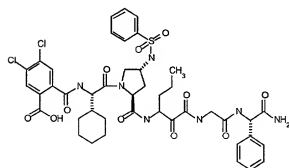
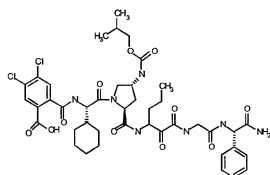
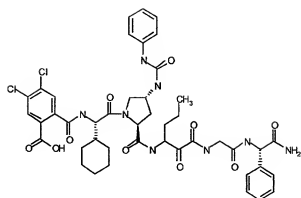


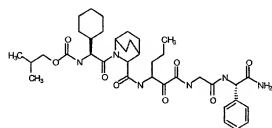
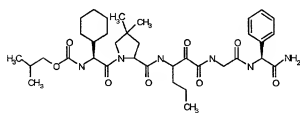
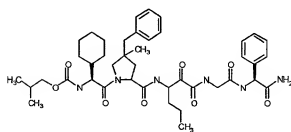
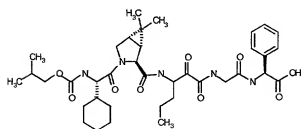
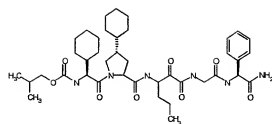


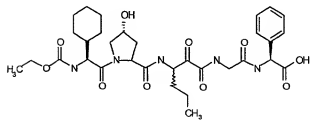
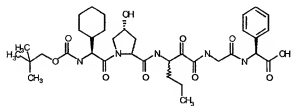
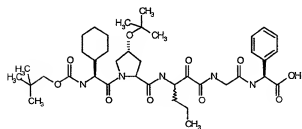
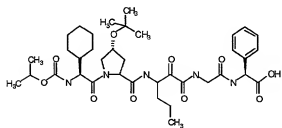


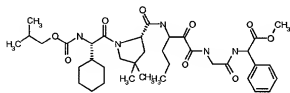


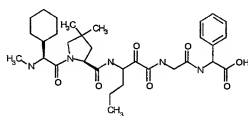
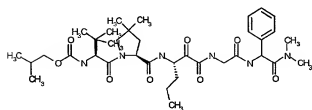
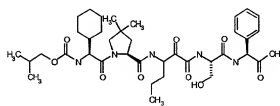
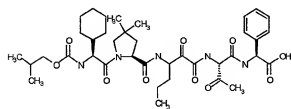
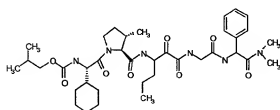
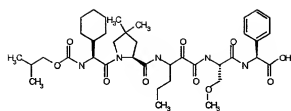


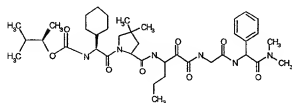
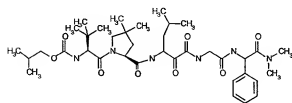
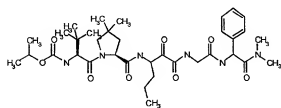
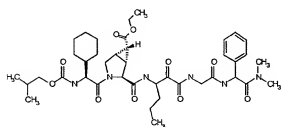
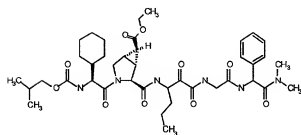
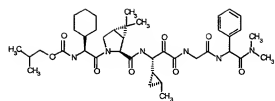


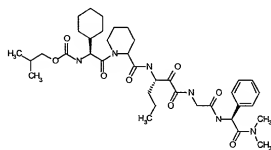
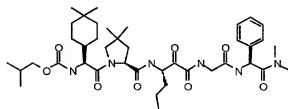
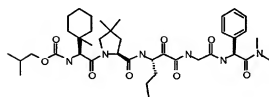
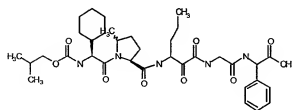
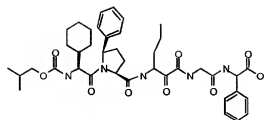


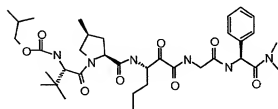
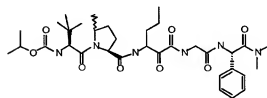
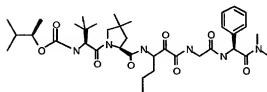
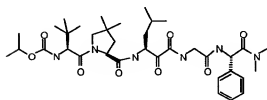
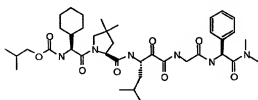
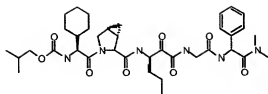


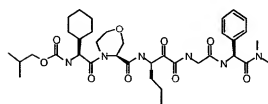
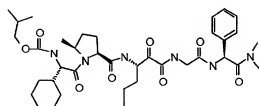
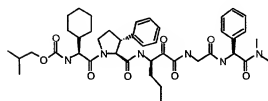
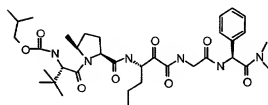
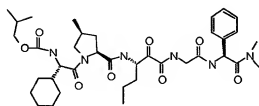
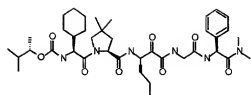


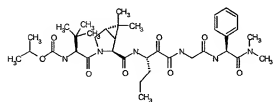
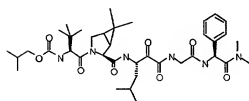
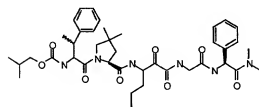
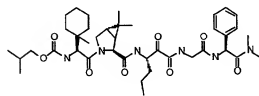
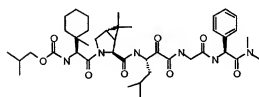
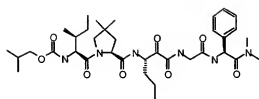




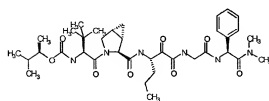
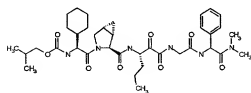
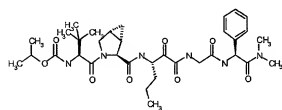
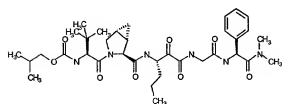
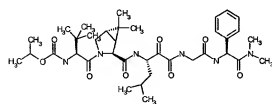
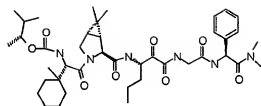




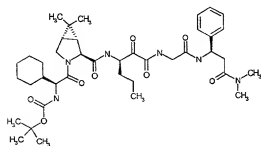
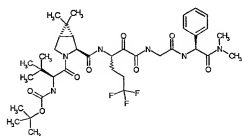
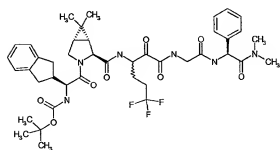
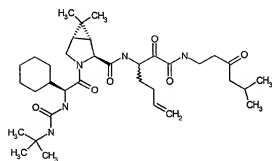
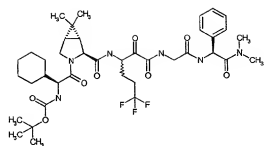


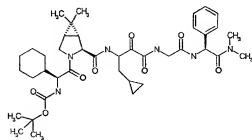


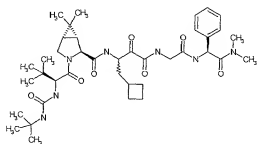
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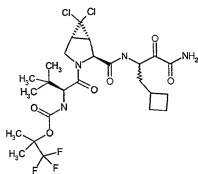
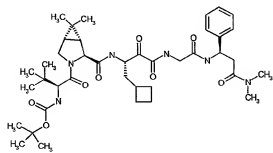
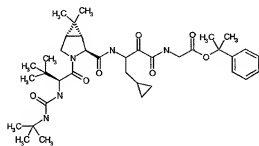
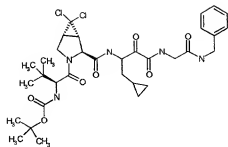


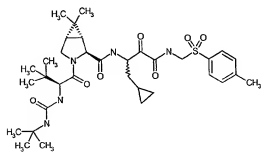
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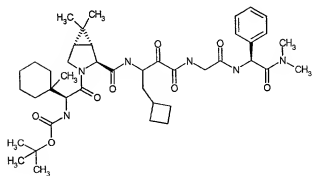
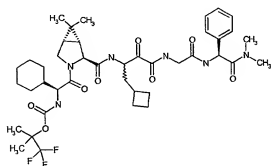
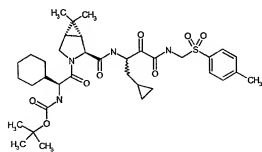
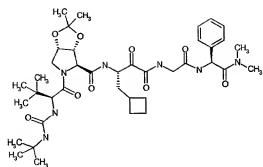


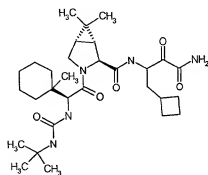
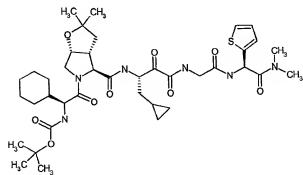
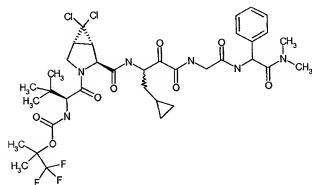
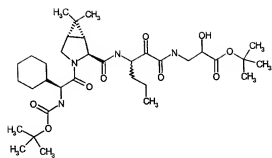


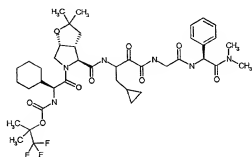
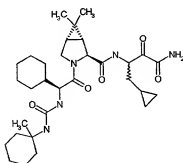
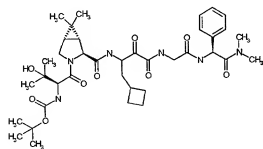
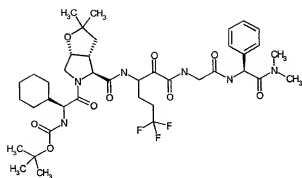


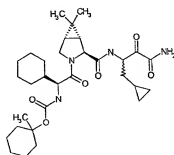
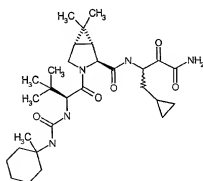
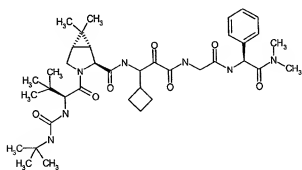
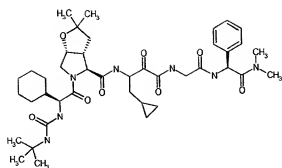


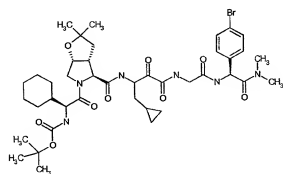
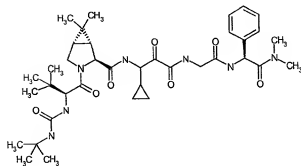
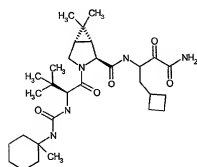
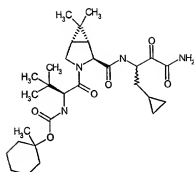


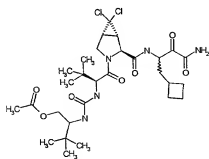
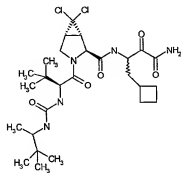
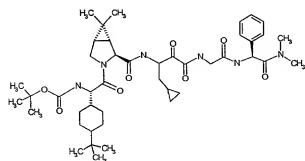
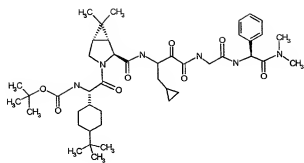


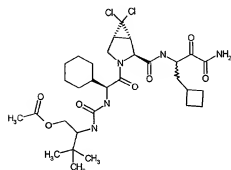
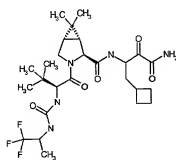
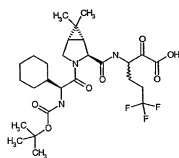
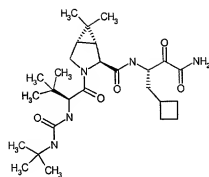


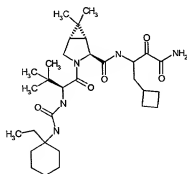
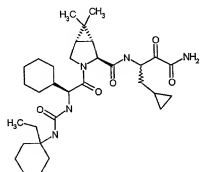
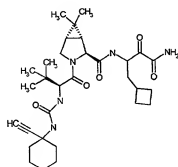
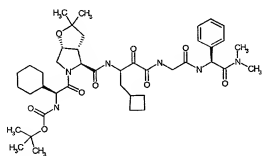




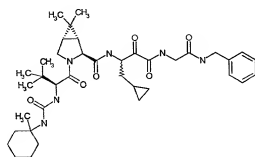
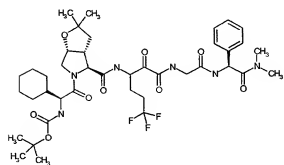
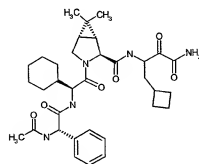
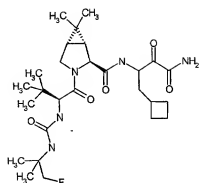


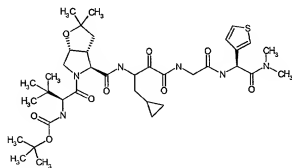
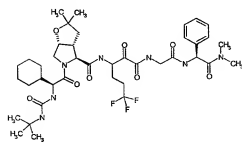
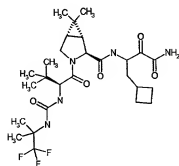
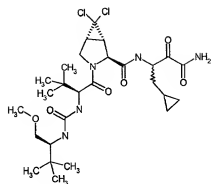


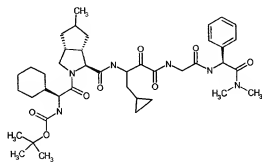
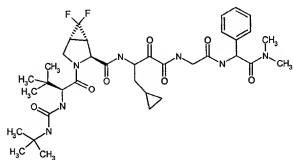
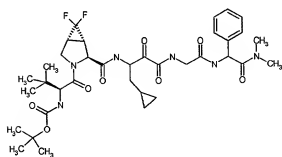
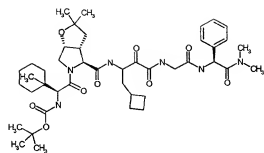


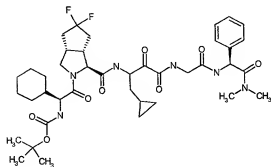
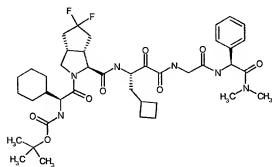
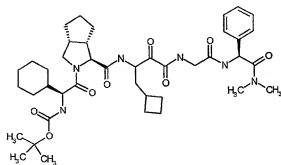
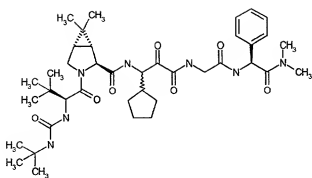


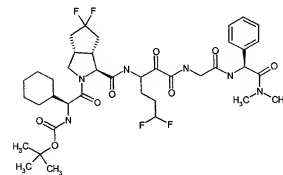
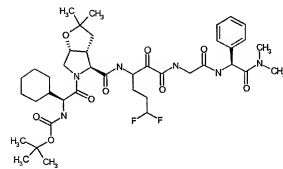
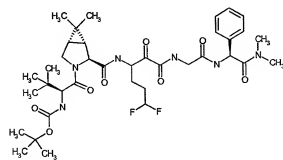
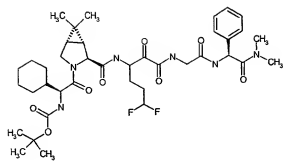
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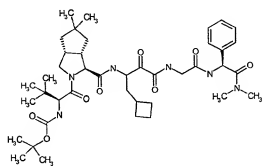
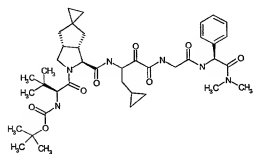
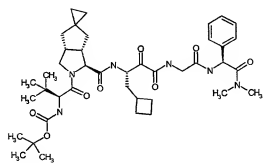
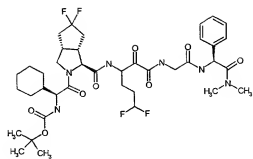


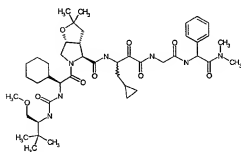
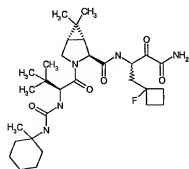
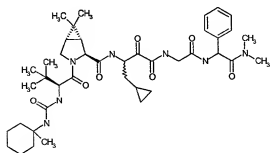
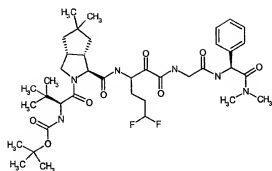


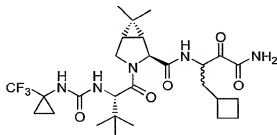
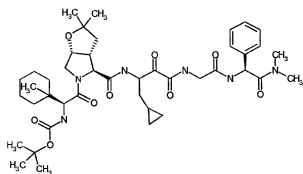
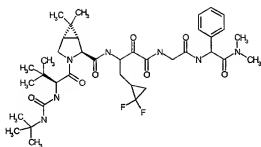












41. A pharmaceutical composition for treating disorders associated with the HCV, said composition comprising therapeutically effective amount of one or more compounds in claim 39 and a pharmaceutically acceptable carrier.

42. The pharmaceutical composition of claim 41, additionally containing an antiviral agent.

43. The pharmaceutical composition of claim 42, still additionally containing an interferon or PEG-interferon alpha conjugate.

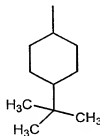
44. The pharmaceutical composition of claim 43, wherein said antiviral agent is ribavirin and said interferon is α -interferon.

45. A method of treatment of a hepatitis C virus associated disorder, comprising administering an effective amount of one or more compounds of claim 40.

47. A method of treating, preventing, or ameliorating one or more symptoms of hepatitis C, comprising administering an effective amount of one or more compounds of claim 40.

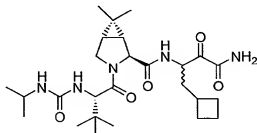
49. The method of claim 48, wherein the compound or compounds inhibit HCV NS3/NS4a protease.

51. The compound of claim 8, wherein R³ is:

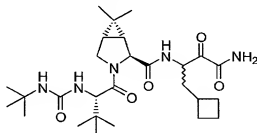
CC1(C)C(C(C)(C)C)C(=O)N1C(=O)NCC(=O)N2C3CC3C(=O)N2C(=O)N4C(C)(C)C4

53. A compound exhibiting HCV protease inhibitory activity, including enantiomers, stereoisomers, rotamers, tautomers, racemates and prodrug of said

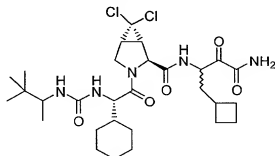
compound, and pharmaceutically acceptable salts or solvates of said compound, or of said prodrug, said compound being the compound of structure shown below:



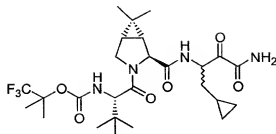
54. A compound exhibiting HCV protease inhibitory activity, including enantiomers, stereoisomers, rotamers, tautomers, racemates and prodrug of said compound, and pharmaceutically acceptable salts or solvates of said compound, or of said prodrug, said compound being the compound of structure shown below:



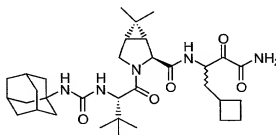
55. A compound exhibiting HCV protease inhibitory activity, including enantiomers, stereoisomers, rotamers, tautomers, racemates and prodrug of said compound, and pharmaceutically acceptable salts or solvates of said compound, or of said prodrug, said compound being the compound of structure shown below:



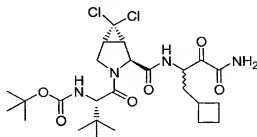
56. A compound exhibiting HCV protease inhibitory activity, including enantiomers, stereoisomers, rotamers, tautomers, racemates and prodrug of said compound, and pharmaceutically acceptable salts or solvates of said compound, or of said prodrug, said compound being the compound of structure shown below:



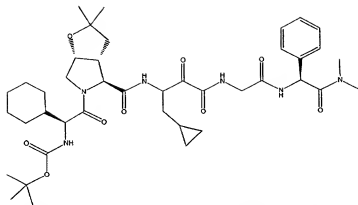
57. A compound exhibiting HCV protease inhibitory activity, including enantiomers, stereoisomers, rotamers, tautomers, racemates and prodrug of said compound, and pharmaceutically acceptable salts or solvates of said compound, or of said prodrug, said compound being the compound of structure shown below:



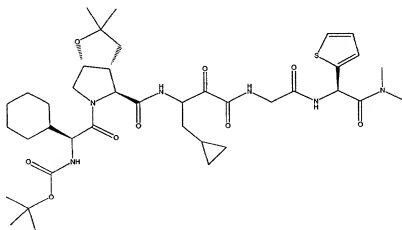
58. A compound exhibiting HCV protease inhibitory activity, including enantiomers, stereoisomers, rotamers, tautomers, racemates and prodrug of said compound, and pharmaceutically acceptable salts or solvates of said compound, or of said prodrug, said compound being the compound of structure shown below:



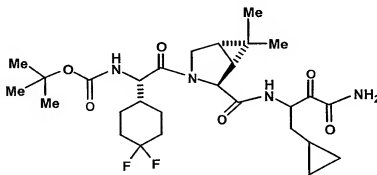
59. A compound exhibiting HCV protease inhibitory activity, including enantiomers, stereoisomers, rotamers, tautomers, racemates and prodrug of said compound, and pharmaceutically acceptable salts or solvates of said compound, or of said prodrug, said compound being the compound of structure shown below:



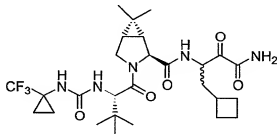
60. A compound exhibiting HCV protease inhibitory activity, including enantiomers, stereoisomers, rotamers, tautomers, racemates and prodrug of said compound, and pharmaceutically acceptable salts or solvates of said compound, or of said prodrug, said compound being the compound of structure shown below:



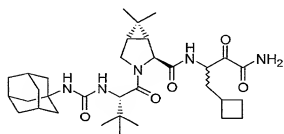
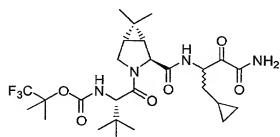
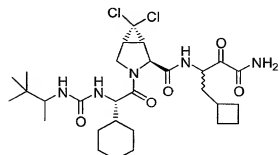
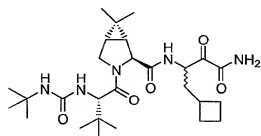
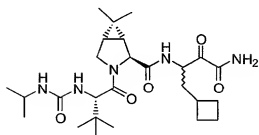
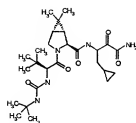
61. A compound exhibiting HCV protease inhibitory activity, including enantiomers, stereoisomers, rotamers, tautomers, racemates and prodrug of said compound, and pharmaceutically acceptable salts or solvates of said compound, or of said prodrug, said compound being the compound of structure shown below:

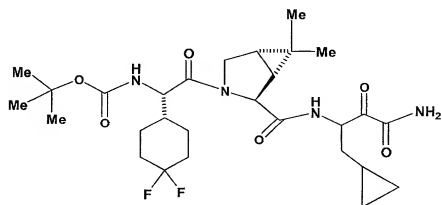
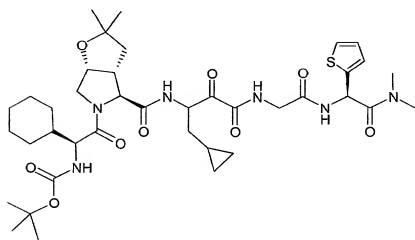
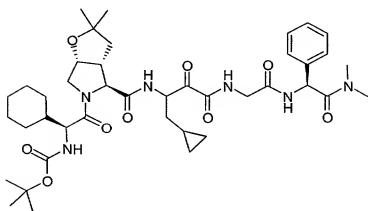
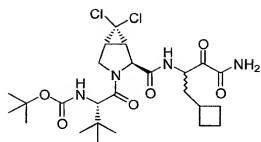


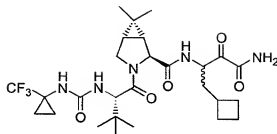
62. A compound exhibiting HCV protease inhibitory activity, including enantiomers, stereoisomers, rotamers, tautomers, racemates and prodrug of said compound, and pharmaceutically acceptable salts or solvates of said compound, or of said prodrug, said compound being the compound of structure shown below:



63. A pharmaceutical composition comprising as an active ingredient a compound, including enantiomers, stereoisomers, rotamers, tautomers, racemates and prodrug of said compound, and pharmaceutically acceptable salts or solvates of said compound, or of said prodrug, said compound being selected from the following:







63. The pharmaceutical composition of claim 62, additionally containing an antiviral agent.

64. The pharmaceutical composition of claim 63, still additionally containing an interferon or PEG-interferon alpha conjugate.

65. The pharmaceutical composition of claim 64, wherein said antiviral agent is ribavirin and said interferon is α -interferon.

66. A method of treating disorders associated with the HCV, said method comprising administering to a patient in need of such treatment, a pharmaceutical composition which comprises therapeutically effective amounts of a compound, including enantiomers, stereoisomers, rotamers, tautomers, racemates and prodrug of said compound, and pharmaceutically acceptable salts or solvates of said compound, or of said prodrug, said compound being selected from the following:

